

THE STORY BEHIND **OUR TOP INNOVATORS LISTING**

Products and Services: We thoroughly analyze a company's offerings to assess their quality, uniqueness, and relevance within the industry.

Core Competencies: We examine the core strengths and capabilities that set a company apart from its competitors.

Product Launches and Press Releases: We take into account a company's recent product launches and noteworthy press coverage, as these indicate their commitment to innovation and market presence.

Case Studies and White Papers: We review case studies and white papers to gain insights into a company's expertise and thought leadership in addressing complex challenges.

Angel Investments and Acquisitions: We consider angel investments and acquisitions as indicators of a company's growth potential and strategic partnerships.

Senior Leadership Team Domain Experience: We value the collective domain expertise of a company's senior leadership, which contributes to their industry knowledge and vision.

Other Awards and Recognitions: We take note of any additional awards or recognition a company has received, underscoring their credibility and industry standing.

Research and Development (R&D) and Innovations: We assess a company's commitment to R&D and its track record of bringing innovative solutions to market.

Breadth of Capabilities and Services: We consider the range and depth of a company's capabilities and services, reflecting their ability to cater to diverse client needs.

Industry Visibility, Innovation, and Impact: We evaluate a company's visibility within the industry, including their participation in industry events, thought leadership initiatives, and overall impact on the sector.

Strength of Clients and Geographic Reach: We take into account the caliber and size of a company's client base, as well as their geographic reach, indicating market acceptance and scalability.

Company Size and Growth Potential: Lastly, we consider a company's size and its potential for future growth, reflecting their overall trajectory and market positioning.

There is a story behind the selection of each company to be added to our elite listing. Rather than selecting random solution providers, our team performs a comprehensive analysis of companies that are providing sophisticated Healthcare Simulation Services. After carefully assessing 500 Fortune listed companies, we shortlist businesses that are eligible to be part of our exclusive listing page. To ensure an adaptable and rigorous selection process, we have a dedicated market research team responsible for identifying the most exceptional companies to showcase in the magazine. Their efforts encompass monitoring press releases, researching reports, tracking product launches, case study analysis, considering event sponsors, and more, all with the aim of identifying the most relevant and innovative technology vendors. In evaluating potential companies for inclusion in our list, our evaluation team focuses on several key parameters:



BIOMED SIMULATION :

ENABLING TOP PERFORMANCE OF CARDIOTHORACIC AND CRITICAL CARE CLINICIANS

Cardiac surgery and Critical Care Life Support are inherently high-risk settings that carry the potential for serious adverse events. Successful treatment of critically ill patients requires rigorous training and experience not only to understand and manage the underlying diseases coupled with ever-changing physiology but also to perform the various complex procedures required for patient care. The goal of simulation-based training is to reduce the frequency of patient incidents and near misses by ensuring that clinicians are prepared, proficient and confident in their ability to navigate through these complexities. Biomed Simulation is at the forefront of revolutionizing high-fidelity training for Cardiothoracic and Critical Care clinicians through cutting-edge AR and VR simulations that are based on physiologic changes at every step of the procedure.

Their unique advantage lies in their commitment to align simulation scenarios seamlessly with real-life operating room and critical care situations. By doing so, they empower healthcare professionals to bridge the gap between theory and practice with unparalleled precision. Competency improvement and increased proficiency represent significant cost and liability risk-reduction for health care facilities. This is where Biomed Simulation is creating an impact with its products, training, assessment and investment in innovative solutions. Califia™ is a unique (one-of-its-kind) product that redefines the future of cardiac surgery and critical care training through cutting-edge virtual reality technology. "We stand



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as a pioneer in the field, surpassing our competitors with innovative solutions that elevate the standard of medical education. Our commitment to revolutionizing the way medical professionals learn, practice, and refine their skills sets us apart from competitors who have attempted to lead in this segment,” as stated by Dr Richard Tallman, Founder and CEO, Biomed Simulation.

In the virtual learning environment, Biomed Simulation is developing solutions combined with game-based incentives that will provide a spectrum of OR and ICU patient scenarios.

This idea of building a simulator for perfusionists and cardiac surgeons evolved from the need to move away from animal labs where cardiac skills and physiology were studied. In 2006, Richard Tallman, PhD applied for an NIH grant to build a first-of-its kind simulator for cardiac perfusion, but unfortunately, the grant was not funded. Concurrently, the arrival of a competitive simulator (the Orpheus Perfusion Simulator - Ulco Technologies, Marrickville, NSW, Australia) opened up the landscape for simulation based training and was a catalyst for Tallman to build a better product.

Over the years, using personal investment, Tallman developed a prototype which garnered significant interest from several cardiac surgery perfusion schools. With time on his hands (his wife’s job relocated them to San Diego), he began experimenting and gathering feedback from his broad network of clinical educators. The advice allowed him to make significant improvements to the simulator that significantly differentiated his product from the predicate, hydraulic-driven Orpheus simulator. In 2011 Biomed Simulation formalized as a company. Tallman was granted working space from the Cyth Company in San Diego and the first Califia™ was sold in British Columbia in 2012/13.

There have been few changes to the mechanical components of Califia™ since its development because the software is the primary driver of the device. The proprietary software is unique because it models the patient’s physiological responses, requiring the user to respond and manage. Other simulators are heavy on the haptics and technical skills of the user, but Califia™ requires the user to think about the acute changes that are occurring in the patient physiology and to respond appropriately. “One of our challenges is that we’re simulating a human being so it’s hard to cut corners. We are connected to sophisticated equipment so we need to constantly make this product easy to use so that we don’t create a steep learning curve. We continue to evolve and improve the user interface as simplification and expansion of procedure types are essential to product growth and enhancement,” points Tallman.



Simulation based training provides a safe and low-risk learning platform for repetitive practice and fosters the teamwork that is critical for safe operations and procedures. This teamwork training can improve communication and coordination, reducing the risk of errors during surgery.

Today, Biomed Simulation is on a mission to enhance the training, competence, and proficiency of intensive care specialists, perfusionists and cardiac surgeons. With its real-life algorithms, embedded in the flagship training device, Califia™, Biomed is dedicated to providing simulations in an AR learning environment that to-date has raised the competencies of front-line professionals in over 170 medical centers in 20 countries worldwide. Unlike traditional classroom didactic learning, the Biomed simulations and scenarios create an immersive high-fidelity learning experience. “We plan to continue our investments in global expansion, in R&D for on-demand learning capabilities, and in forging alliances with companies who share our passion for the power of simulation education. Our vision is to reach medical centers throughout the world, in both developed and developing countries alike, with virtual learning products that will be transformative in heart and lung critical care,” concludes Tallman. ■



Healthcare simulation industry has been rapidly evolving due to advancements in technology, changing educational paradigms, and the increasing need for efficient and realistic training in healthcare. Healthcare simulation providers have been increasingly incorporating VR and AR technologies into their solutions. VR and AR provide immersive and interactive environments for medical training, allowing healthcare professionals to practice various scenarios and procedures in a safe and controlled setting.

AI and ML are being integrated into healthcare simulation solutions to enhance the realism and adaptability of simulations. AI algorithms can simulate realistic patient behaviors and responses, making the training experience more dynamic and personalized. This is in addition to the fact that healthcare simulation providers are moving towards cloud-based platforms, allowing for easier access, collaboration, and data storage. Cloud-based solutions facilitate remote access to simulations, enabling healthcare professionals to train and collaborate from different locations.

Though there are various services and solution providers around the globe providing healthcare simulation solutions and services, finding the right service partner is a tough task.

The Top 10 Healthcare Simulation Solution Providers featured herein have been meticulously selected based on their exceptional contributions, cutting-edge technologies, proven track records, and their commitment to driving penetration testing excellence. These providers have not only showcased their ability to deliver superior solutions but have also exhibited a deep understanding of the dynamic healthcare landscape, offering tailored approaches that cater to specific industry needs.

We invite you to explore these pages and discover the innovative minds and ground-breaking solutions that are shaping the Healthcare Simulation Solution providers landscape of tomorrow.



BIOMED SIMULATION



Awarded as

For delivering unparalleled quality, excellence, and innovation, we recognize and celebrate 10 revolutionary Healthcare Simulation Solution Providers that consistently showcase zeal and ingenuity for greater outcomes.

Nelasha Jeeval
Managing Editor



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Biomed Simulation is improving clinician performance through patient-free simulation. The company's family of Califa products support simulation experiences involving ECMO/ECLS and Cardiopulmonary Bypass. Its products are software heavy and are based on patient physiology.